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ORAL HISTORY PROGRAM

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Q: Good morning. Dr. Enzinger, I wonder, to start at the beginning, could you give me something about where you were born, grew up, and your early background about your family.

DR. ENZINGER: I was born in Austria in 1923. My father was there what I would call here a district commissioner at that time. I was born in Rohrbach, in Upper Austria. This is about fifty miles north of the Danube, close to the Czechoslovakian border. It was a very small city of about two thousand inhabitants. But when I was eight or nine years old, my father was transferred to Linz. And I came to Linz to go to the so-called gymnasium, this is the equivalent to high school, and finished the eight years of high school in Linz. Then I went to Innsbruck to study medicine. And after about one semester of medicine, the war interrupted my studies.

Q: Was this about '39?

DR. ENZINGER: Yes, that was about '39. Then I had to go to the Arbeitsdienst, you know, this is a work service. And then I had to go to the military service.

Q: Were they using your medical skills at all at that point?

DR. ENZINGER: I was a medical orderly, but I really didn't know much medicine at the time. I had only six months of medical school; I hardly knew anything.

Q: You were probably ahead of most of the medical orderlies.

DR. ENZINGER: Well, more or less, yes. During the war, I was a medical orderly, first in Germany, near Munich, and then I was sent to France. I was taken prisoner in France at the time of invasion, on the 10th of June, 1944.

Q: You must have been right down then in the Normandy area.

DR. ENZINGER: Yes, I was in the Normandy area; I was captured near Cherbourg, and was taken to England, and spent from '44 to '46, in a military hospital in Drymen, Scotland, in a big castle. I served as a medical orderly for two years.

Q: Were you getting any extra training, more or less, as you went along?

DR. ENZINGER: Actually, not, it was on-the-spot training. I was responsible for one ward,

and we were responsible for carrying out medical service and cleaning. In '46, I was released, came back to Austria and continued my medical study in Innsbruck. In 1950, I received my M.D. degree in Innsbruck, Austria.

Q: Looking back on your medical training in Austria, because I'm sure now you've had experience with teaching hospitals here in the United States, of course, this was immediate postwar, so life must have been rather difficult, but how would you describe the medical training? Was it different from ours?

DR. ENZINGER: First of all, medical school was very crowded, because many people had been waiting for the war's end before they went into medical school. Medical training was more theoretical than practical, compared to the United States. I think we had much less practical experience during those years than one would receive in a similar course here in America. My son, who is now a physician, studied here in America, and there's quite a difference. I mean, he had a much closer contact with the patient than we had. But I think we got a very good theoretical basis. During my medical study, I worked part time in anatomy and histology, and I got some kind of additional training in these fields.

Q: As you were going through your medical training, were you sort of making up your mind about which area you want to specialize in?

DR. ENZINGER: Yes, at that time I had decided to go into internal medicine. As a matter of fact, even after I graduated, I wanted to go into internal medicine. By sheer coincidence, I was asked to take an internship in the United States. Somebody had been offered an internship at Dartmouth, he couldn't take it, so I said, yes, I would be happy to come, and I came for one year. But then Dartmouth didn't work out, and I went to Mount Kisco, New York, and I spent one year in a rotating internship at the Mt. Kisco Hospital, from 1950 to 1951.

Q: What various things were you doing at Mt. Kisco?

DR. ENZINGER: Almost everything. This was a rotating internship, and we spent one month or two months in each major field. We did surgery, helped operating, I did even some caesareans sections myself, under supervision, of course, and I did the usual services in internal medicine, and other major fields.

Q: Was it sort of a wrench to move from how you were doing medicine in Austria to the United States at that time?

DR. ENZINGER: I really am really not qualified to compare this, because I hadn't been in the practice of medicine in Austria. After finishing my study I spent another year in anatomy and histology. Medicine in Mount Kisco was very good, because most of the physicians there worked only part-time in Mount Kisco, and were actually teachers in some of the big medical schools in New York.

Q: Mount Kisco is sort of a suburban...

DR. ENZINGER: Suburban; it's often called "the bedroom" of New York.

Q: And a relatively wealthy one, too.

DR. ENZINGER: Wealthy, and with excellent medical care. I was impressed by the high standards of medical care there. I met a friendly pathologist there, and became interested in pathology. And so I spent many of my free evenings looking at slides. So this and my background in anatomy more or less turned me toward pathology.

In Mt. Kisco I saw again a friend of mine, an endocrinologist, who was professor of endocrinology at the University of Iowa. He asked me, "whether I would like to come to Iowa to do pathology?"

I thought, "Well, one year of pathology is not going to hurt me, before going into internal medicine."

And out of that one year became two years. And then I decided that I had too much pathology, that it was too late to return to internal medicine, and so I stayed in pathology. And I stayed in Iowa.

Actually, my stay there was interrupted. I went back to Austria and did forensic medicine at the University of Innsbruck for one year.

Q: How does that differ? What were you mainly dealing with?

DR. ENZINGER: Legal medicine, primarily; autopsies on traffic fatalities and suicides. Also other legal problems, such as paternity suits, blood group determinations and teaching.

During that time I received a letter from Iowa, inviting me and asking me whether I would like to come back? "We'll pay your trip to America," and even offered me a second-class fare, and offered me a substantially higher salary. So I decided to return. In Austria, everything was very crowded during the postwar years and the future was not too bright. I mean, you couldn't get a good training facility.

Q: Well, the peace treaty had not even been signed at that time.

DR. ENZINGER: I really don't know the exact year. Was it...

Q: I think it was around 1954.

DR. ENZINGER: Yes, it was in the early fifties. I went back to Iowa and finished my four years of residency in Iowa.

In 1956, a friend of mine applied to the AFIP, and I said, why shouldn't I try, too? He was immediately accepted, but the AFIP took very long to accept me, because at that time I wasn't yet a citizen. Finally, I think one week before July 1, 1957, I was accepted. And then I

came to Washington. Ever since that time, I have been in Washington at the AFIP.

Q: Since 1957. Well, now, doctor, you were at Iowa off and on from '52 to '57, mainly in the field of pathology, what were you hearing about the AFIP and its work in pathology?

DR. ENZINGER: Well, at that time, it was considered the mecca of pathology. The atlas of the tumor fascicle was printed at the AFIP. The staff was very well known. So it was a plum appointment to come to the AFIP at that time, and I was very happy to be able to come. The AFIP had a very high reputation among pathologists. It was also responsible for the annual slide conferences of the American Society of Clinical Pathology: the slides were cut here at the AFIP, and were selected here at the AFIP. So the AFIP was actually not only the center of pathology in this country, but in the world.

Q: When you came to the AFIP, what field of pathology were you sort of moved into?

DR. ENZINGER: Well, when I came here, I was first asked, "What field would you like to go?" I gave a long list headed by Soft Tissue. I didn't ask for Pulmonary Pathology, but being a newcomer, I was assigned to Pulmonary Pathology. Pulmonary Pathology at that time did also ENT Pathology. And I spent one year in Pulmonary/ENT Pathology under Dr. Sam Rosen. This was a very good training. Dr. Rosen was an outstanding pathologist.

I guess I was immediately impressed by the variety of lesions which we saw. It didn't compare to the variety of lesions we saw in Iowa. I mean, Iowa was a very good place, but here we saw cases from all over the world, and highly selected cases. I think, in one year, one gained an enormous experience in Pulmonary Pathology that was not available anywhere else.

Q: What were the main interests in Pulmonary Pathology when you came here?

DR. ENZINGER: At that time, tumors, primarily. Also some infectious diseases, but primarily tumors. Fungi, fungal diseases, for instance, was a relatively new area, and we studied pulmonary histoplasmosis. I think in general, the AFIP was always more interested in tumor pathology than other fields.

Q: You went there in '57. What was the atmosphere of the place?

DR. ENZINGER: Well, I think it was a very good year for me. First of all, there were many newly appointed associate pathologists. And there was a very close cooperation among them; we exchanged slides, so one saw many slides from other fields as well. We had every week a conference where we discussed unusual and rare cases. They prepared slides for us and we could keep some of those in our files. And I think we had a good exchange of ideas. And then, of course, all of the senior staff members were highly qualified.

Q: The director of the Institute at that time was Captain Silliphant.

DR. ENZINGER: Yes, Captain Silliphant. Actually, we didn't see much of the director at that time.

Q: You didn't have any particular feel for the administration of the Institute?

DR. ENZINGER: We had really no insight in the operation of the Institute. We were glad to be here. It was a purely professional year, and we spent all of our time reviewing cases. We had actually very little contact with the Director. Dr. Silliphant seemed to be somewhat of a shy person; I think he talked to me once during his remaining two years. So I didn't know him very well. He was, well, a military man, primarily. He had not, as far as I know, an extensive background in pathology, but I think he was a good administrator.

Q: What about equipment and all? Looking at it at that time, were there constraints on what you could do and couldn't do, as far as your research goes, because of the state of the equipment?

DR. ENZINGER: The funding of the Institute at that time was exceptionally good. This lasted for several years after that. You could do almost anything you wanted to do. We had the animal lab upstairs. We had access to an electron microscopy and microscopy. Everything was available. So really there was no lack of equipment or even lack of support. And things worked very well; at least, it seemed so to me at that time. Maybe the director had a different view, but for me it worked exceptionally well. The supportive people, clinical administration and the laboratory, functioned extremely well. If you wanted a slide or a special stain, you received it without delay, it worked. I was quite impressed by these excellent services when I came to the AFIP.

Q: You say there was quite a bit of cross fertilization between the various departments.

DR. ENZINGER: Yes. That, unfortunately, did not last too long, for the very reason that the AFIP received more and more cases, and then the workload became so high that people didn't have the time and the leisure to exchange cases. So this close cooperation worked only for two or three years. But I think, even in those two or three years, I learned a great deal about other fields in pathology, as much or more than I would have learned in a very large hospital.

Q: What about the work that was coming in? Where were you getting your work from, and how did you deal with it? Was it fast turnaround or was it more on the almost academic pace?

DR. ENZINGER: Well, at that time, I think the turnaround time was less emphasized than later on, since initially we didn't have too many cases. For instance, in the first two years at the Soft Tissue Department we had about seventy to one hundred cases a month, later during my time it went up during my time to about four hundred cases, with only two or three pathologists.

We received cases from the military and civilian hospitals, and, of course, from the Veterans' Administration. Later on, civilian cases outnumbered - at least in the Soft Tissue

Department - military cases.

Q: What caused the increase, within a relatively short time, from seventy cases a month to four hundred or more?

DR. ENZINGER: Well, increasingly people became aware of the AFIP, and people learned that they could send slides to the AFIP for opinions.

Also many of the universities were specializing in basic research (because the money was in basic research) and did not have an experienced staff able to handle the rare consultation cases. And so the AFIP was the only place where they could send these cases.

Q: You were first doing pulmonary. Did you stay with that very long?

DR. ENZINGER: No, I stayed one year in Pulmonary Pathology, and then I applied for Skin again. I was accepted and I went to Dr. Helwig's department for one year. And it was an entirely different department, like Dr. Rosen, Dr. Helwig was an outstanding pathologist, and he's still known as one of the top skin pathologists anywhere. Every day we had conferences, reviewed consultations and were asked to express our opinions. This was most stimulating, and I learned a great deal during that year.

Q: He encouraged the younger people.

DR. ENZINGER: ...to do independent thinking, and to evaluate and analyze the cases properly. I think he was an outstanding teacher.

Q: What type of cases were you seeing? I mean, skin, but when you say skin, what are we talking about?

DR. ENZINGER: Well, more or less everything in dermal pathology: adnexal tumors, that is, tumors of sweat glands and tumors of hair follicles, and also various carcinomas, basal cell carcinomas, squamous cell carcinomas. I think tumors outnumbered the inflammatory diseases in our material, but we saw quite a number of inflammatory lesions as well. Usually only small biopsies taken by either a surgeon or a dermatologist. At that time the Skin Department also was in charge of the gastrointestinal diseases, which were handled by Dr. Helwig as well. But Dr. Helwig was and still is primarily interested in the skin pathology.

Q: Were you still finding that the civilian cases were increasing?

DR. ENZINGER: Over the years this has changed considerably: in the Fifties we had more military than civilian contributors but in the early Eighties, we had about ninety percent civilian contributors and relatively few military contributors. Sometimes we saw perhaps as many as one-third of all the sarcomas in this country. As a result we accumulated an enormous collection of cases here at the AFIP, most from civilian sources.

Q: In this time you've been here dealing with skin and soft tissue, have you seen any changes signifying the environment, habits, or anything else that have caused any changes in what you're seeing?

DR. ENZINGER: Well, there were the years when there was much interest in Agent Orange. I mean, when there were numerous investigations on this subject.

Q: For the record, you might explain what Agent Orange is.

DR. ENZINGER: Agent Orange was used during the Vietnam years, it was sprayed from the air some to defoliate the trees of the country. We had several congressional investigations exploring the problem and consequences of Agent Orange exposure especially to find out whether Agent Orange or dioxin was causing soft tissue tumors. There were some soft-tissue tumors of Vietnam veterans in our material, and I think it has not been solved yet. But I think the evidence for soft-tissue tumors being caused by Agent Orange is relatively small. But some, including congressmen, did not seem to agree with this.

Q: It became a big political issue, really, with opponents of the Vietnam War and all that, so it got intertwined in that. But here you were, in a government agency, looking at this problem. There must have been tremendous pressure on you, on both sides. Did you feel this, or were you able to operate in a fairly neutral manner?

DR. ENZINGER: Well, I had to testify twice in Congress. Well, some, of course, came out very strongly for a relationship between dioxin exposure and soft tissue tumors. This was several years after the end of the Vietnam war, and it was assumed, at the time, that the tumors developed several years after exposure. But we didn't see any actual increase in soft tissue tumors, considering that there were two million veterans from the Vietnam War. We also saw few that were physically related to Agent Orange exposure. So it did not seem that there was a very close relationship, if any.

Q: We're in an era, since you've been here, where pesticides and various types of fertilizer and all that, with chemical substances, have been used in almost everything. It's part of the growth of the agribusiness. Have you seen any problems with that?

DR. ENZINGER: Well, very few, actually. There is a relationship between vinyl chloride (vinyl chloride is used in the chemical industry) and angiosarcomas. But there are very few such cases. And there are those cases which are secondary to massive radiation therapy. This connection is well established. But, again, the risk is relatively minor compared to the risk of not having any radiation therapy. It is a danger, but it's relatively small.

Q: What were the pressures on you, and not just you, obviously, but within your department under Dr. Helwig, to publish?

DR. ENZINGER: Well, I started publishing the first year, with Dr. Rosen, in Pulmonary Pathology. And when I worked in Dr. Helwig's department, everyone received a research topic. And at that time, I selected Whipple's Disease.

Q: Could you explain what that is.

DR. ENZINGER: Whipple's Disease, actually, as we know now but didn't know at the time, is an infectious disease of the intestines, with marked enlargement of the mesenteric and lymph nodes and related complications. At that time, it proved fatal in many cases. I investigated some thirteen or fourteen cases. It's a very rare disease, and fourteen cases was an unbelievable number at that time. But, in the meantime, they have found out that this is an infectious disease, and that it responds to antibiotics; nowadays it's no longer a serious problem. But, unfortunately, I didn't identify the infectious agent at that time. I did a rather careful study of these autopsy cases. I knew there were some rod-like structures, I was unable to identify them.

Q: Well, now, just to get an idea of how the system worked, I assume this disease would crop up in various parts of the country, would you send out an all-points bulletin: Send me anything you've got?

DR. ENZINGER: No, I went to the AFIP files. The files are, as you know, very, very large. I pulled all those cases which were diagnosed as Whipple's Disease, or those that were coded under related diagnoses, and I found some thirteen cases. I did not ask for additional cases. Our files are so large that one can find almost anything in larger numbers than in any university or other medical center in the country.

Q: Could you tell me a bit about the files, because this is really the heart, or at least one of the hearts, of the system, isn't it? To be able to produce data for what you need, how do you find...

DR. ENZINGER: No, very early we had a card system to find cases, the system where you put holes into the card.

Q: Card punch system.

DR. ENZINGER: We had machines which were sorting the cards, and you could identify specific cases. This was some kind of an early computer system, and it worked very well. And then we had huge diagnostic files. On each subject, we could ask for a listing of possible cases. But you had to review those cases, because there were wrong diagnoses, and some were misfiled, and so on. But this was working very well from the very beginning. And our filing system became a center of interest. When we had visitors, one of the first things we did, we took them down to the center. There were these big machines, with huge drums and storing enormous amounts of information. At that time, it was very impressive. Today, everything would be much smaller; we were really on the front line of the information-gathering.

Q: Have you stayed in the soft-tissue area since then?

DR. ENZINGER: Yes, I did stay in the soft-tissue area until I retired in 1988. I joined the department on the 1st of July 1959, I was one year in Soft Tissue as associate pathologist when Dr. Winslow, who was chairman of the Soft Tissue Department, left and I was appointed chairman of the Soft Tissue Department early in 1960. From 1960 to 1988, I was in charge of the Soft Tissue Department.

Q: This is getting very military, but in the diagram of who's responsible for whom or reports to whom, where did the Soft Tissue Department fall?

DR. ENZINGER: At that time, we weren't divided in smaller groups of departments as they are now. At that time, there was a director, the two deputy directors, and the scientific director, who was in charge of everything scientific at the Institute. And then there was the director of pathology, and this was Dr. Helwig at that time. And he was in charge of practically everything at the AFIP, from the laboratory to the pathologists--anything related to pathology. He was in charge of all departments. So there was no further subdivision.

Q: We might walk through some of the directors. You were mentioning Silliphant. Then Frank Townsend was the director from '59 to '63.

DR. ENZINGER: Frank Townsend was, again, somebody I did not know too well at that time, because the directorate was very far away from the day-by-day pathology. He was primarily, I guess, at least at that time, a military man, a rather strict colonel. I think he was a very good administrator, and later he became an important man down in Texas medicine. I think he talked to me a few times but during that time, I didn't see much of the director.

Q: Then he was followed, from '63 to '67, by Joe M. Blumberg.

DR. ENZINGER: Well, Joe Blumberg was...

Q: He was one of the major figures.

DR. ENZINGER: A major figure, indeed. He had a great deal of influence. He was a very smart man. He was very influential. But also, what I liked most, he was a very generous man. And you could do more or less with your field whatever you wanted. He let you go to international conferences; he didn't haggle about the expense. But at that time, of course, it was much easier than later on, because money was freely available. But he was a very nice and very personable man, and we talked many times. We were rather close to him. He was not the shy type; he was very outgoing.

Q: I take it he covered the Institute very well.

DR. ENZINGER: He covered the Institute, and he knew what was going on at the AFIP. He had, of course, also the advantage that he had considerable influence downtown. He was a brigadier general, later on major general. This, of course, made a difference; a major general has more to say in the Surgeon General's office than a colonel, and there were quite a number of colonels down there. So that helped a great deal. Our social life was rather active at that time. The members of the staff met frequently. And I even traveled with him a few times, and went to meetings with him. You had to brief him first, then he'd give a speech that sounded very experienced; he really was a master in public speaking. I think he was a very good director.

Q: He was followed by a naval captain, Bruce Smith.

DR. ENZINGER: Bruce Smith, became later chief of the Veterans' Hospital here in Washington. He was a very nice and, I think, much more introverted person, but polite, very helpful and very kind, a person, quite different, I think, from Dr. Blumberg. And I think he also did a good job at that time.

Q: Then Colonel Morrissey of the Air Force came. He was only here two years; it seemed to be an unhappy tour.

DR. ENZINGER: Yes, he was very unhappy with the staff. I really don't know what exactly happened. I think it would need someone who was higher up at that time to find out. I think he complained about his job. He complained mostly about the department chairmen, that they were too independent or that they were too powerful.

Q: I read his report.

DR. ENZINGER: Oh, you read his report. There probably were some reasons for this, but he left being rather unhappy about his position. But what exactly made him leave, I don't know.

Q: Did this have any reflection during his '71 to '73 period? Sometimes when you have a director who's unhappy with things, it sort of translates itself down to the rest of the staff. Did you feel that?

DR. ENZINGER: No, not at that time. He wasn't in the center of things, so it really didn't affect the staff too much. The AFIP was still working rather well. I guess we had some disagreements with him, but it was mainly disagreement in the higher echelon, among the deputies, I think.

Q: Part of it was that one often hears, in any institute, that the branch directors, whoever they are, have too much power and they run their organizations without much direction. This is always the complaint of some administrators who come into an organization; it's nothing new.

DR. ENZINGER: That was going on, on and off. One director let us sign our reports. The next came and said, "Well, that's not the military style of doing things. Every letter has to be signed by the director". Then, after a year or two, they decided differently, obviously it was too much work to sign all those letters, then they let us sign again. Actually the department chiefs did have very little power, we had no funds, we had no say in the direction of the Institute, but they felt that we had perhaps too much contact with outside pathologists, with the civilian side of pathology, and they were perhaps somewhat envious about this.

Q: Did you get the feeling that some departments were responding quickly to their mail, and others were too slow? Because things are coming in for consultation and going out, and if there isn't a policy, this can get rather unbalanced.

DR. ENZINGER: Well, to some degree. The relative freedom of the department chiefs had backfired because some really were sitting on their cases. And I can see why. Some of those cases were very complicated; they needed all kinds of special stains and all kinds of reviews. But some reports were endlessly delayed. So there came the decisions to remedy the situation: and I do not know under whom. First of all, we had to render a firm diagnosis on top of the report, a report without diagnostic commitment. Also there were increasing complaints, probably from the outside, from the military, perhaps, that diagnoses were not returned in time. And this became a major source of some unhappiness between the directorate and the staff. Then they started a precise accounting of cases, how many cases were handled in time. And slowly, more and more controls and tighter controls were installed.

Q: Well, then, moving along the people, James Hansen came in. He was here three years and also left sort of an unhappy situation, I take it.

DR. ENZINGER: I don't know exactly what happened there. To me he was always a very nice person and a very generous person. I really don't know much about his professional qualifications.

Q: I think it was part of the American Registry problem and all.

DR. ENZINGER: Yes, well, this came up. Dr. Mostofi originally handled the registry, but I knew little about these things at that time. Perhaps we heard something, but sometimes we didn't know what was rumor and what was fact. So we were not too well informed, fortunately, perhaps, about what was going on in the upper echelon.

Q: Then Elgin Cowart, a captain in the Navy, was director from '76 to '80.

DR. ENZINGER: Well, I think he was a very nice person, too. He's still around here, and I think he did a good job. Cowan as well.

Q: Cowan was a colonel in the Air Force and director here from '80 to '84. And then Robert

McMeekin.

DR. ENZINGER: Well, McMeekin was an entirely different person. I think he came from the outside, he was very ambitious and he wanted really to redo things. He wanted to do too much too fast. He started probes and investigations; he called a Navy investigative team to find out whether people were happy or unhappy, and whether there were any specific complaints.

Q: You mean investigations of...

DR. ENZINGER: Investigations of the staff, investigations of the laboratory personnel, of everyone at the Institute, collecting opinions, and so on. He started that, then he created a committee which was supposed to plan the future of the Institute. So he was trying really, at least from his point of view, to bring the Institute up to date. But on the other hand, I think the pathology, the professional point of view, was somewhat neglected, or at least he wasn't too interested in the pathologic side, in the specialty side of the field. What really happened when and why he left early, I never found out.

Q: And then Karnei was the last director you served under.

DR. ENZINGER: Yes. Well, Karnei tried to get information from everyone. I mean, he, again, tried to improve the Institute, sometimes by methods about which I was often rather skeptical. He'd talk to, let's say, to junior pathologists and asked them how the chief is doing, and so on. I was rather unhappy about him and his methods at this time. I thought it was not the best way to run the Institute. He tried very hard, I think, but he created some unhappiness and concern around the Institute.

Q: With the Institute, we'll talk a bit about personnel, have you seen a change? I mean, while you were here, we had the Vietnam War, and we had the phase-down from Vietnam, and eventually the disappearance of the draft and all this. Did this make much of a difference as far as you were concerned, as far as the type of professional people you were getting here at the Institute?

DR. ENZINGER: During the Second World War, many outstanding pathologists had joined the Medical Museum downtown. They worked during the war in the Medical Museum, and then were taken over by the AFIP. So the AFIP started out with a very good and a highly selected staff experienced people who came from major medical institutions. Later on, we got some very good people through the various military programs.

Q: The Berry Program.

DR. ENZINGER: Yes, people who were able to spend one or two years at the AFIP, and some of those stayed on. But then, when these programs were discontinued it became much more difficult to find qualified people. And there was also the discrepancy, I think, in salaries, which

became notable. Outside salaries went up considerably and did not compare to the AFIP salaries, particularly at the higher level. Associate pathologists did fairly well, but at the higher level, the payment was not commensurate with what people were receiving outside.

Q: In the last decade or so, we've been paying much greater attention to bringing minorities and women into all branches of endeavor in the United States. Have you noticed any changes in the Institute?

DR. ENZINGER: Yes, some of the women pathologists, I think, were perhaps somewhat more assertive than we were used to, and there were a good number of problems between the senior staff and some of the women physicians who joined the Institute. I guess we were not used to people speaking up in this manner. They felt they should be more assertive, and complained to the director directly. This did not improve the general situation and caused friction among the staff. On the one hand we got some good people in here, professionally good people. On the other hand, I think the personality problems were more pronounced than before, at least they came more to the surface than before.

Q: Did you see importance of the AFIP in the field of pathology in the United States change in the considerable period you were here, more than thirty years?

DR. ENZINGER: Well, I think a high professional level was maintained for many years - probably for fifteen or twenty years, and then in the 80's we became less influential in the professional activities of the country. I mean, the AFIP was leading, without doubt, in the first fifteen or twenty years up to 1970 or 1975, but then our leadership, I think, was taken over, partly at least, by civilians outside the Institute.

Q: Teaching in universities.

DR. ENZINGER: Outside people, teaching in universities, yes. So I think we lost some influence over the years.

Q: What type of work were you doing as far as reaching out to foreign countries, to universities and all their staff?

DR. ENZINGER: When I came to the AFIP, and when I replaced Dr. Winslow, who left for a general practice in pathology, I inherited a major project; the WHO (World Health Organization) project for the diagnosis of soft-tissue tumors. The AFIP was made the center, the International Reference Center for the Diagnosis of Soft-Tissue Tumors. And my job in the beginning was to prepare teaching sets of all important types of soft-tissue tumors for distribution to pathologists throughout the world.

Q: These were essentially manuals and slides.

DR. ENZINGER: Manuals and slide sets. I prepared almost twenty manuals and twenty different slide sets, with twenty-five slides each, for distribution in various countries. The sets were reviewed by a group of experts from various countries. We had a group of about ten or twelve experts from various countries, all civilians. I had a grant from the National Institutes of Health for \$40,000, and at that time, \$40,000 was a large amount of money.

After we prepared all the sets (and much of the assembly we did ourselves), it was realized at the WHO that we couldn't cut as many sets as were needed, and that a book was needed. And then I wrote a small book about the classification of soft-tissue tumors, the so-called blue book that was edited and published in Geneva and that more or less became the standard in the classification of soft-tissue tumors. This book was issued in the mid-Sixties, was widely distributed, and has been useful in the diagnosis of these tumors.

Later on, together with Dr. Weiss, I wrote a textbook on soft-tissue tumors. It's now in the third edition. It also was widely distributed, because there was so little in the soft-tissue field. I owe it to the AFIP that I was able to see and study so cases; I would not have been able to do this without the collections at the AFIP and the large number of cases which came in on a day-by-day basis.

The WHO project was finished in the Sixties. And then we went into various smaller projects, clinical pathological studies, which I did with other members of the staff. In fact, we published quite a number of papers from the mid-Sixties to the late Eighties.

So, more or less, there were three periods for me. When I started out, it was mainly routine consultations and the WHO classifications: preparing the classifications and writing a manual. Then there was a period of perhaps fifteen years where I spent much time in teaching and preparing papers, writing papers, and consulting on a huge number of cases every day. And then the third one was when I worked on our book. Actually, nearly all of the book was written at home rather than at the Institute.

Q: You mentioned you spent a lot of time teaching. Whom were you teaching?

DR. ENZINGER: I was teaching at the national meetings, the meetings of the International Academy of Pathology and the American Society of Clinical Pathology, the two major pathology societies in this country. I gave a short course there, which I did for many years, a short course of soft-tissue pathology. And so, every year, we brought a group of forty or fifty pathologists who signed up for the short course. Then I participated in the annual AFIP lectures for many years, where our work and progress at the AFIP was primarily presented. Then I went to a good number of international pathology meetings, mainly in Europe and South America. In the early days, South America was quite heavily represented here at the AFIP. We had many students from South America, and most of the departments had one or two students from various South American countries.

Q: In the international field, there is this cross fertilization. Where did you find the strengths of some countries, or blocs of countries, in pathology?

DR. ENZINGER: To our advantage, there were no countries outside the USA which were very

strong in soft-tissue pathology. Soft-tissue pathology was a new field; it was started here in the USA in the mid-Fifties.

Q: You got in on the bottom.

DR. ENZINGER: It was a new field and I got in very early. I had the advantage of being in the forefront of soft-tissue pathology, because at that time no one, no one in England or elsewhere was very strong in tumor and particularly soft tissue pathology.

Q: Well, were you getting patients, then, from abroad, too?

DR. ENZINGER: We received cases from all over the world. We received cases from England, from Germany, from Japan, from Asia and elsewhere.

Q: Were you finding any particular areas, I'm thinking, say, particularly of Africa or tropical places, which would seem to be places where you would have more of a breeding ground because of climate or conditions where soft-tissue problems would arise?

DR. ENZINGER: One would think so, but we got relatively few cases from Africa. Maybe they were not examined or were not submitted to the AFIP. In later years when we had a Department of Infectious Diseases, we saw more cases from Africa. But in my time, in the early years, very few cases came from Africa. But there was one interesting feature: the few cases we saw from Africa were very unusual. They didn't match our experience. In fact, nearly every case from Africa looked a little bit different.

Q: Well, I was wondering whether this was happenstance?

DR. ENZINGER: I don't know; we didn't see enough cases.

Q: I would have thought that since you had this global outreach, plus the fact that, as a practical measure, you're an Armed Forces Institute, which means you're going to be sending troops all over the world, that there might be thought of having sort of an African outpost there to take a look and see what we might be up to in the next...

DR. ENZINGER: Early on the Institute developed a Department of Geographic Pathology which later became the Department of Infectious Diseases. They were mainly responsible for these areas. They sent pathologists to Africa and sent pathologists to South America, where they collected cases. But, again, this material was not very strong in soft-tissue tumors.

Q: As far as equipment and techniques, what were some of the major developments in this period of time? Since, as you say, you were in the forefront of this.

DR. ENZINGER: Well, in the first years, really, we had only special stains. And we tried with

special stains to make our diagnoses; it was helpful, but it was not very helpful. Then the age of the electron microscope came. There we ran into a major problem, because electron microscopy needs fresh tissue, or at least properly fixed tissue, and most of our cases came in as formalin-fixed material. Some of these we could use; I had an electron microscopy technician who did a good number of cases, but the results were not really satisfactory and mostly it didn't change or improve our diagnoses. Later on, in the Seventies, immunohistochemistry came in. Immunohistochemistry has really changed our diagnostic approach.

Q: Could you explain what that is.

DR. ENZINGER: Immunohistochemistry is where you can stain minute amounts of specific structures in various cells, based on an immune reaction. This made it possible to identify very small amounts of specific cellular products, and to distinguish, let's say, rhabdomyosarcomas (tumors of muscle) from fibrosarcomas or other types of tumors. This helped us also to distinguish, for instance, malignant melanoma, the pigmented tumor of soft tissue, from other spindle cell tumors; it helped us to distinguish carcinomas from spindle cell sarcomas. So immunohistochemistry was really very useful and improved our diagnoses. The Department of Immunohistochemistry here handled quite a number of soft-tissue lesions, and I think at some time about forty percent of our cases went through Immunohistochemistry prior to diagnosis.

Q: What about the lab staff, because I assume that this is really again a very important thing. How about your lab technicians, did you find any changes in them?

DR. ENZINGER: Well, I think we always had well trained and efficient laboratory staff. Mr. Luna, who was chief of the laboratory here, was a nationally recognized expert in laboratory pathology, and I think he produced excellent work over the years. There were some personality problems, like everywhere, immunohistochemistry was not done in the main laboratory, but a special immunohistochemistry laboratory was created. And it produced excellent work; I think we achieved very good results with the immunohistochemistry laboratory. This was a real success story.

Q: Did you have many civilian hospitals sending people to learn your techniques?

DR. ENZINGER: In the lab?

Q: Yes.

DR. ENZINGER: Yes, I think civilian hospitals, as well as military, sent quite a number of people here to study special lab procedures, and also, to study immunohistochemistry. So we had quite a number of people coming in from outside.

Q: What about foreign doctors? You mentioned Latin America, but what about from other places?

DR. ENZINGER: We always had foreign visitors who spent here one or two weeks or more at the AFIP. I think, in the earlier years, many came for training from South America, later we had a period where most came from Japan, China and from Europe, especially from Germany and England. So we always had quite a number of foreign visitors and foreign trainees. At the Soft Tissue Department, we always had some trainees for a shorter or longer period of time.

Q: What about the role of the Museum itself? You know, this has waxed and waned.

DR. ENZINGER: I know little about the Museum. Maybe I didn't care too much about it, but really this was more a problem of the directorate, it was kind of independent unit, and I had little knowledge about what was going on. I know there were many visitors and it was and is one of the routine Washington sights, but I think it did not play a major role in the professional life of the staff.

Q: There was this change between the balance of the AFIP being preeminent, and then others, particularly the teaching university hospitals, beginning to pick up some of the fields. Were they raiding the AFIP? Did one have the feeling that they were sort of looking at you and others and trying to raid it?

DR. ENZINGER: Well, since we had to write a diagnosis on every consultation case and since we had to explain our diagnosis in some detail with unpublished data, certainly people outside learned a good deal from our reports. There's no question about it. And of course, younger people outside the Institute became interested in soft tissue pathology and became experts in this field. Nowadays we have several experts in soft tissue pathology in various universities and various medical centers.

Q: Looking back on your career, what sort of gives you the greatest satisfaction, would you say?

DR. ENZINGER: Well, I think the AFIP really has given me the opportunity to study one field in depth, and to be in the frontline of a very, small specialty. It was satisfactory to know really one field very well and be able to teach other people about it. It was a most satisfactory experience, and I think I owe this to the AFIP. I could not have done it anywhere else.

Q: You retired in 1988. Many people retire and then go on to do other things. What did you do after retirement?

DR. ENZINGER: Well, after retirement, the first year, I travelled. I went to Alaska, by car. I drove 12,000 miles to Alaska and back in almost three months. I always wanted to do something like this. It was very interesting, but it was a little more strenuous than I had imagined.

And then I followed various invitations. I went to Japan and China to meetings, and I went to England and Germany.

My successor at the AFIP was Dr. Sharon Weiss.

Q: She's now at Michigan State.

DR. ENZINGER: Unfortunately after one and a half years, Dr. Sharon Weiss decided to leave the AFIP and go to the greener pastures of Michigan. It took a little while to find somebody qualified to fill her shoes. During this interim year I spent three days a week here at the AFIP, looking at cases and writing reports. In 1990 Dr. Meese became chairman of the department. The next year I spent two days a week at the AFIP. Now I'm spending only one day a week. But I still go to meetings and give lectures. This year, I was in California, Hawaii and various other places.

Q: In the overseas field, have you seen any changes in how they are approaching your field now?

DR. ENZINGER: Well, I think, in the last ten years or so, the interest in soft-tissue pathology, and in soft-tissue tumors has increased greatly. This is reflected, I think, in the huge number of papers on soft-tissue tumors have been published recently. Today, compared to the Sixties, perhaps ten times as many soft tissue papers are published each year. So the general knowledge about this field has increased greatly. And there is much greater interest.

Q: Are any particular countries stronger than others?

DR. ENZINGER: Well, I think Sweden was very strong for some time, partly because they founded a registry and reviewed all soft-tissue tumors the entire country. Later Japan became very strong. Japan at first followed in our footsteps, but they have many well trained people who work very hard; in fact, today Japan is sending more papers to our medical journals than any other foreign country. They are very productive, and they are very productive in the soft-tissue field as well.

Q: One final question, doctor. From your experience, are there any attributes that make for a good pathologist?

DR. ENZINGER: Yes, I think there are. First, you have to become a rather meticulous worker. You have to study each case in great detail. That means you have to learn every little detail clinical history, and you have to review each slide under the microscope. You should spend time studying it; and you should not rush it too much. And, another important thing, you have to be honest to yourself. You have to know when you don't know, and you have to say so. You have to be honest to yourself that you have studied the lesion well and have done enough to give full justice to the problem at hand. So I think honesty and meticulous work, and, of course, an ample background of information and experience are essential for doing work in this field.

Q: Well, thank you very much, doctor. I appreciate this.

DR. ENZINGER: Thank you very much. Thank you.